

In the claims:

This listing of the claims replaces all prior versions in the application.

1. (Currently Amended) A method for selectively initiating interventional therapy in a subject, comprising:
 chronically detecting electrical activity in first and second cardiac regions in the subject;
 identifying discordant alternans in at least one component of the detected electrical activity based on a comparison of the electrical activity in the first and second cardiac regions; and
 initiating interventional therapy in the subject responsive to the identification of discordant alternans.
2. (Original) The method of Claim 1, wherein the component comprises a duration, shape and/or amplitude of an STT segment.
3. (Original) The method of Claim 1, wherein the component comprises a duration, shape and/or amplitude of a T wave.
4. (Original) The method of Claim 1, wherein the component comprises a duration , shape and/or amplitude of an activation recovery interval (ARI).
5. (Original) The method of Claim 1, wherein the identifying discordant alternans is based on cycle-to-cycle variations in the detected electrical activity.
6. (Original) The method of Claim 1, wherein initiating interventional therapy is responsive to a change in the component from concordant to discordant alternans.

7. (Original) The method of Claim 1, wherein the interventional therapy reduces a risk of arrhythmia.

8. (Original) The method of Claim 1, wherein the interventional therapy reduces a risk of ventricular arrhythmia.

9. (Original) The method of Claim 1, wherein the interventional therapy reduces a risk of atrial arrhythmia.

10. (Original) The method of Claim 1, wherein the interventional therapy comprises introducing a pacing routine.

11. (Original) The method of Claim 1, wherein the interventional therapy comprises administering a shock.

12. (Original) The method of Claim 1, wherein the interventional therapy comprises administering a drug that reduces a risk of arrhythmia.

13. (Original) The method of Claim 1, wherein the electrical activity comprises an ECG signal from external electrodes.

14. (Original) The method of Claim 1, wherein the electrical activity comprises an electrogram from internally implanted electrodes.

15. (Original) The method of Claim 1, wherein the component includes a duration of a cardiac signal component.

16. (Original) The method of Claim 1, wherein the component includes an amplitude of a cardiac signal component.

17. (Original) The method of Claim 1, wherein the component includes a shape of a cardiac signal component.

18. (Currently Amended) A system for selectively initiating interventional therapy in a subject, comprising:

a plurality of electrodes configured and sized to chronically detect electrical activity in first and second cardiac regions;

a discordant alternans monitor operably associated with the electrodes, the discordant alternans monitor configured to identify discordant alternans in at least one component of the detected electrical activity based on a comparison of the electrical activity in the first and second cardiac regions; and to initiate interventional therapy in the subject responsive to the identification of discordant alternans.

19. (Original) The system of Claim 18, wherein the electrodes are configured to be internally implantable in the subject.

20. (Original) The system of Claim 18, wherein the electrodes are configured to reside external on the subject.

21. (Original) The system of Claim 18, further comprising a drug delivery system operably associated with the discordant alternans monitor, wherein the discordant alternans monitor is further configured to initiate interventional therapy by controlling the drug delivery system.

22. (Original) The system of Claim 18, wherein the electrodes are further configured to deliver a pulse to the respective cardiac regions, wherein the discordant alternans monitor is further configured to initiate interventional therapy by controlling the pulse to the electrodes.

23. (Original) The system of Claim 22, wherein the pulse comprises a pacing routine.

24. (Original) The system of Claim 22, wherein the pulse comprises a defibrillation pulse.

25. (Original) The system of Claim 18, wherein the component comprises a duration, shape and/or amplitude of an STT segment.

26. (Original) The system of Claim 18, wherein the component comprises a duration, shape and/or amplitude of a T wave.

27. (Original) The system of Claim 18, wherein the component comprises a duration, shape and/or amplitude of an activation recovery interval (ARI).

28. (Original) The system of Claim 18, wherein the discordant alternans monitor is configured to identify discordant alternans based on cycle-to-cycle variations in the detected electrical activity.

29. (Original) The system of Claim 18, wherein the discordant alternans monitor is configured to initiate interventional therapy responsive to a relative change in a component by detecting a change from concordant to discordant alternans.

30. (Original) The system of Claim 18, wherein the interventional therapy reduces a risk of arrhythmia.

31. (Original) The system of Claim 18, wherein the interventional therapy reduces a risk of ventricular arrhythmia.

32. (Original) The system of Claim 18, wherein the interventional therapy reduces a risk of atrial arrhythmia.

33. (Original) The system of Claim 18, wherein the electrical activity comprises an ECG signal from external electrodes.

34. (Original) The system of Claim 18, wherein the electrical activity comprises an electrogram from internally implanted electrodes.

35. (Original) The system of Claim 18, wherein the component includes a duration of a cardiac signal component.

36. (Original) The system of Claim 18, wherein the component includes an amplitude of a cardiac signal component.

37. (Original) The system of Claim 18, wherein the component includes a shape of a cardiac signal component.

38. (Currently Amended) A computer program product for selectively initiating interventional therapy in a subject, the computer program product comprising:

a computer readable storage medium having computer readable program code embodied in said medium, said computer-readable program code comprising:

computer readable program code configured to chronically detect electrical activity in first and second cardiac regions in the subject;

computer readable program code configured to identify discordant alternans in at least one component of the detected electrical activity based on a comparison of the electrical activity in the first and second cardiac regions; and

computer readable program code configured to initiate interventional therapy in the subject responsive to the identification of discordant alternans.

39. (Original) The computer program product of Claim 38, wherein the component comprises a duration, shape and/or amplitude of an STT segment.

40. (Original) The computer program product of Claim 38, wherein the component comprises a duration, shape, and/or amplitude of a T wave.

41. (Original) The computer program product of Claim 38, wherein the component comprises a duration, shape and/or amplitude of an activation recovery interval (ARI).

42. (Original) The computer program product of Claim 38, wherein the computer readable program code configured to identify discordant alternans further comprises computer readable program code configured to identify discordant alternans based on cycle-to-cycle variations in the detected electrical activity.

43. (Original) The computer program product of Claim 38, wherein the computer readable program code configured to initiate interventional therapy further comprises computer readable program code configured to initiate interventional therapy responsive to a change in the component from concordant to discordant alternans.

44. (Original) The computer program product of Claim 38, wherein the interventional therapy reduces a risk of arrhythmia.

45. (Original) The computer program product of Claim 38, wherein the interventional therapy reduces a risk of ventricular arrhythmia.

46. (Original) The computer program product of Claim 38, wherein the interventional therapy reduces a risk of atrial arrhythmia.

47. (Original) The computer program product of Claim 38, wherein the computer program code configured to initiate interventional therapy further comprises computer program code configured to introduce a pacing routine.

48. (Original) The computer program product of Claim 38, wherein the computer program code configured to initiate interventional therapy further comprises computer program code configured to control the administration of a shock.

49. (Original) The computer program product of Claim 38, wherein the computer program code configured to initiate interventional therapy further comprises computer program code configured to initiate the administration of a drug that reduces a risk of arrhythmia.

50. (Original) The computer program product of Claim 38, wherein the electrical activity comprises an ECG signal from external electrodes.

51. (Original) The computer program product of Claim 38, wherein the electrical activity comprises an electrogram from internally implanted electrodes.

52. (Original) The computer program product of Claim 38, wherein the component comprises a duration of a cardiac signal component

53. (Original) The computer program product of Claim 38, wherein the component comprises an amplitude of a cardiac signal component.

54. (Original) The computer program product of Claim 38, wherein the component comprises a shape of a cardiac signal component.